

FY2013

WHEELER ARMY AIRFIELD

Army Defense Environmental Restoration Program

Installation Action Plan

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA).

In an effort to coordinate planning information between the restoration manager, the US Army Environmental Command (USAEC), the Installation Management Command-Pacific Region (IMCOM-Pacific), Wheeler Army Airfield (WAAF), the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and tentative budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

Acronyms

AEDB-R	Army Environmental Database- Restoration
AOC	Area of Concern
CAB	Combat Aviation Brigade
CAP	Corrective Action Plan
CC	Compliance-related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CR	Compliance Restoration
CTT	Closed, Transferred, and Transferring
DD	Decision Document
DERP	Defense Environmental Restoration Program
DES	Design
DMM	Discarded Military Munitions
DU	Decision Unit
EAL	Environmental Action Level
EC	Environmental Covenant
ER,A	Environmental Restoration, Army
FRA	Final Remedial Action
FS	Feasibility Study
FY	Fiscal Year
HDOH	Hawaii Department of Health
HRR	Historical Records Review
IC	Industrial Control
IMCOM-Pacific	Installation Management Command, Pacific Region
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operation)
INV	Investigation
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISC	Initial Site Characterization
K	thousand
LTM	Long-Term Management
LUC	Land Use Controls
LUCIP	Land Use Control Implementation Plan
MC	Munitions Constituents
MD	Munitions Debris
MDL	Munitions Debris Levels
MEC	Munitions and Explosives of Concern
MILCON	Military Construction
mm	millimeter
MMRP	Military Munitions Response Program
MPPEH	Material Potentially Presenting Explosive Hazard
MR	Munitions Response
MRS	Munitions Response Site
MRSP	Munitions Response Site Prioritization Protocol
N/A	Not Applicable

Acronyms

NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operations and Maintenance
PAH	Polycyclic Aromatic Hydrocarbons
PBA	Performance-Based Acquisition
POL	Petroleum, Oil and Lubricants
PP	Proposed Plan
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action (Operation)
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RIP	Remedy-in-Place
ROD	Record of Decision
RSL	Regional Screening Levels
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
USAEC	US Army Environmental Command
USAEC	United States Army Environmental Command
USAG-HI	US Army Garrison, Hawaii
USC	United States Code
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UXO	Unexploded Ordnance
WAAF	Wheeler Army Airfield
WAFB	Wheeler Air Force Base
XRF	X-ray Fluorescence

Acronym Translation Table

CERCLA

Preliminary Assessment(PA)
Remedial Investigation(RI)
Feasibility Study(FS)
Remedial Design(RD)
Remedial Action (Construction)(RA(C))
Remedial Action (Operation)(RA(O))
Long Term Management(LTM)
Interim Remedial Action(IRA)

RCRA Underground Storage Tank (UST) Site Phase Terms

= Initial Site Characterization(ISC)
= Investigation(INV)
= Corrective Action Plan(CAP)
= Design(DES)
= Implementation (Construction)(IMP(C))
= Implementation (Operations)(IMP(O))
= Long Term Management(LTM)
= Interim Remedial Action(IRA)

Installation Information

Installation Locale

Installation Size (Acreage): 1430

City: Schofield Barracks

County: Honolulu

State: Hawaii

Other Locale Information

Wheeler Army Airfield (WAAF) is located in the central part of the island of Oahu on the Schofield Plateau and covers 1,430 acres of land. The facility is located 22 miles northwest of the city of Honolulu. The area around the airfield is mostly agricultural land. The nearest municipality is Wahiawa, located one-half mile to the northeast supporting residential, commercial and light industrial uses. The town of Mililani lies two miles southeast of WAAF and supports mostly residential and commercial uses. Schofield Barracks borders WAAF to the north and Schofield Barracks East Range borders WAAF to the northeast.

Installation Mission

WAAF's mission is to provide aviation support to the Hawaii Army Air National Guard and a number of Department of Defense (DoD) activities, including the Defense Communications Agency, the Air Force's 6010th Aerospace Defense Group, the Hawaii Army National Guard's Aviation Support Facility, and the 25th Infantry Division Combat Aviation Brigade.

Lead Organization

IMCOM

Lead Executing Agencies for Installation

USAEC

Regulator Participation

State Hawaii Department of Health (HDOH)

National Priorities List (NPL) Status

WHEELER ARMY AIRFIELD is not on the NPL

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status

Installation is in the process of determining interest in establishing a RAB.

Installation Program Summaries

MMRP

Primary Contaminants of Concern: Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC)

Affected Media of Concern: Soil

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Planned	201610	201709	2017

5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
WAAF Former 1940s SAR Decision Document	WAAF-006-R-01

Cleanup Program Summary

Installation Historic Activity

In the past, the central plateau and WAAF area have been used for Hawaiian settlement, cattle ranching, agricultural production (pineapples), and the military. The area was densely forested through the early-1800s. Several Hawaiian villages were scattered across the plateau. There was some dry land cultivation and many of the gulches were cultivated with taro.

In 1848, King Kamehameha III designated the entire WAAF area as Crown Lands. In the second half of the 18th century, the land was leased for cattle ranching. Cattle grazing occurred in the southwestern portion. In 1900, pineapple cultivation began in the area. The pineapple fields were located in the northeastern portion of WAAF.

The area occupied by WAAF was originally acquired by the Secretary of War in 1899 for the Schofield Barracks Military Reservation. Although the US military formally arrived in 1899 (Executive Order 30, Statute 750), troops did not occupy the area until 1908 (Tomanaii-Tuggle and Bouthiller, 1993). In February 1922, construction at WAAF, at the time called Wheeler Field, began as an extension of Schofield Barracks. WAAF was a small operation, housing two squadrons of the Hawaiian Department of Air Corps. The installation was the site of several historic aviation events, such as the first nonstop mainland-to-Hawaii flight (1927) and the first Hawaii-to-mainland flight. Construction at the base resumed in the early-1930s. Officers' quarters, barracks, hangars, headquarters, runways, a fire station and other technical buildings were constructed at this time (Tomanaii-Tuggle and Bouthiller, 1993; Hirota, 1983).

In 1939, WAAF became a permanent military post. Units stationed at the installation included the 18th Pursuit Group and the 4th and 5th Reconnaissance Squadrons. WAAF was bombed during the attack on Pearl Harbor. Anecdotal information suggests that 83 aircraft were destroyed and subsequently buried at the end of the runway or bulldozed into a nearby gulch. Two additional runways were constructed after the attack. They formed a triangle so that all three runways could be used simultaneously. Ammunition storage structures, bunkers, a new hangar, family housing, and support structures were also constructed during World War II. In 1944, the 7th Air Service Command was established at the base to provide service and supply for B-29 bombers (Tomanaii-Tuggle and Bouthiller, 1993; Hirota, 1983; Harding Lawson Associates, 1990). Several small arms ranges were established around this time. All have been subsequently closed, and are undergoing cleanup under the Military Munitions Response Program (MMRP).

In April 1948, the installation was renamed Wheeler Air Force Base (WAFB). In 1949, it was deactivated and placed in caretaker status. WAFB was reactivated in 1952 during the Korean War, which resulted in the organization of the 1508th Support Squadron. In the 1960s, the Air Force, Army, Navy, and Hawaii National Guard shared the installation's facilities. Documents indicate that aircraft maintenance was limited to flightline maintenance and minor frame and engine work (Dames and Moore, 1986). There were no heavy maintenance shops, such as engine rebuilding or metal plating, at the air base. Therefore, shop-generated wastes were not extensive.

The US Army assumed control of administration, maintenance, and operations at WAFB in 1977. It became the center for all Army aviation activities in the Pacific (primarily helicopters).

In 1991, the installation came under formal control of the US Army and was renamed WAAF. (Tomanaii-Tuggle and Bouthiller, 1993; Hirota, 1983).

Installation Program Cleanup Progress

MMRP

- Prior Year Progress:** The feasibility study (FS)/proposed plan (PP)/decision document (DD) (followed by remedial design (RD)/remedial action (construction) [RA(C)] is underway at WAAF-003-R-01 and WAAF-005-R-01. Additional investigation is underway at WAAF-008-R-01 and should be completed in FY13.
- Future Plan of Action:** The FS/PP/DD for WAAF-011-R-01 and WAAF-011-R-02 should be complete in late 2014. The RD and RA(C) for WAAF-003-R-01, WAAF-005-R-01, and WAAF-008-R-01 are expected to be underway in FY14.

WHEELER ARMY AIRFIELD
Army Defense Environmental Restoration Program
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 12/5

Installation Site Types with Future and/or Underway Phases

- 4 Firing Range
(WAAF-003-R-01, WAAF-005-R-01, WAAF-008-R-01, WAAF-011-R-02)
- 1 Small Arms Range
(WAAF-006-R-01)
- 2 Unexploded Munitions/Ordnance
(WAAF-010-R-01, WAAF-011-R-01)

Most Widespread Contaminants of Concern

Metals, Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern

Soil

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
WAAF-006-R-01	1940s Small Arms Range	FRA	REMOVAL	2013

Duration of MMRP

Date of MMRP Inception 200204

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201609/201609

Date of MMRP completion including Long Term Management (LTM): 204309

MMRP Contamination Assessment

Contamination Assessment Overview

The DoD established the MMRP under the Defense Environmental Restoration Program (DERP) to address DoD sites with munitions and explosives of concern (MEC), including unexploded ordnance (UXO), discarded military munitions (DMM), and munitions constituents (MC). MMRP-eligible sites include other than operational ranges where UXO, DMM, and MC are known or suspected. Properties classified as operational ranges are not eligible. Therefore, they are excluded from the MMRP.

The MMRP began in the early-2000s as a result of key drivers such as processes outlined in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP - 40 CFR 300) as authorized by the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 US Code (USC) 9605, as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99-499. The process began with three phases of range inventories. Phase I consisted of installations completing an initial data call. The USAEC managed the implementation of Phases II and III of the MMRP inventory. The Phase II inventory dealt with active and inactive range considerations. Phase III involved the closed, transferred, and transferring (CTT) range inventory conducted in 2002. Included were extensive mapping, data collection for upload to the Army range inventory database, an assessment on explosives safety risk using the risk assessment code methodology for CTT (ranges or sites with UXO or DMM identified in the inventory were included in this phase), and a determination of which sites on the inventory potentially qualify for the MMRP.

Ten MMRP sites have been identified at WAAF. In FY08, an site investigation (SI) was completed for eight munitions response (MR) sites at the installation. The SI recommended no further action (NFA) at WAAF-001-R-01, WAAF-002-R-01, WAAF-004-R-01, and WAAF-007-R-01 for both MEC and MC.

In FY08, a Compliance-related Cleanup (CC) site (CCWAAF0004) was transferred to the MMRP as WAAF-009-R-01. An SI was conducted which included digital geophysics and an anomaly investigation. Based on the results of the SI, NFA was recommended. The state is currently reviewing this recommendation.

Site WAAF-010-R-01 was opened in FY09. It is suspected that bombing debris was buried within the site after the Japanese aerial attack in 1941. The site is scheduled for a preliminary assessment/site investigation (PA/SI), followed by an RI. The site was previously site CCWAAF0005 under the CC database.

An RI is currently under way at five MR sites on WAAF (WAAF-003-R-01, WAAF-005-R-01, WAAF-006-R-01, WAAF-8-R-01, and WAAF-010-R-01). A new MR site was added after a historical records review identified aerial photographs that depicted a practice bomb range south of the runways. The site was named Practice Bomb Range and assigned AEDB-R number WAAF-011-R-01. An SI is currently underway at that site. Site WAAF-011-R-02, Wheeler Gulch 40mm Range, was approved in FY12.

Cleanup Exit Strategy

An RI is underway at six of the active MMRP sites and an SI is underway for one MMRP site. Please see the individual site cleanup exit strategies for specifics on anticipated future actions at the sites.

MMRP Previous Studies

	Title	Author	Date
1983	IRP Phase I Records Search, Wheeler AFB, Oahu, HI	Hirota	MAR-1983
1986	Final IRP Phase II, Confirmation/Qualification Stage 1, Wheeler Army Airfield, Oahu, HI	Dames and Moore	JUL-1986
1990	Final IRP Stage II Technical Report, Hickam Air Force Base, HI, Volume I	Harding Lawson Associates	AUG-1990
1993	Final RI, Phase II Stage 3, Informal Technical Information Report, Wheeler AAF, Oahu, HI	Tomanaii-Tuggle and Bouthiller	APR-1993
2002	Final CTT Inventory Report	TechLaw	OCT-2002
2007	Final Historical Records Review	TLI Solutions, Inc.	JAN-2007
	Final Site Inspection Work Plan for Fort Shafter, Schofield Barracks, Makua MR, Wheeler AAF, and Waikakalaua Ammo Tunnels	TLI Solutions, Inc.	MAR-2007
2008	Final SI Report	TLI Solutions, Inc.	MAY-2008
	Addendum to Final SI Report	TLI Solutions, Inc.	OCT-2008
2009	Anomaly Resolution, Environmental Sampling and Analysis, Site-specific Final Report, Wheeler Army Airfield	Zapata Inc.	MAR-2009
2010	Preliminary Assessment/Site Inspection Wheeler Army Airfield Combat Aviation Brigade	CH2M Hill	SEP-2010
2011	Final Decision Document Proposed Barracks Location, WAAF, Oahu, Hawaii	Environmental Science International	FEB-2011
	Final Supplemental Historical Records Review for Practice Bomb Range MRS AEDB-R No. WAAF-011-R-01, WAAF, Oahu, Hawaii.	Bering Sea Environmental, LLC	APR-2011
	Final Remedial Investigation Report Wheeler Army Airfield Hawaii Phase II MMRP Oahu, Hawaii	Weston Solutions, Inc	JUN-2011
	Remedial Investigation Report WAAF Combat Aviation Brigade MRS, Oahu, Hawaii	CH2M Hill	NOV-2011
2012	Final Feasibility Study Wheeler Army Airfield 1940's Small Arms Range (WAAF-006-R-01) Hawaii Phase II MMRP Oahu, Hawaii	Weston Solutions, Inc	JAN-2012
	Final Supplemental Site Inspection Report for Wheeler Gulch Munitions Response Area AEDB-R No. WAAF-011-R-00. WAAF, Oahu, Hawaii	TLI Solutions, Inc.	MAR-2012
	Final Decision Document Wheeler Army Airfield Former 1940's Small Arms Range (WAAF-006-R-01) Hawaii Phase II MMRP, Oahu, Hawaii.	Weston Solutions, Inc.	JUL-2012

MMRP Previous Studies

2012

Title

Author

Date

Final Feasibility Study Data Collection Report Firing Range 2A (WAAF-003-R-01) and Archery Range (WAAF-005-R-01) MRS Wheeler Army Airfield, Oahu, Hawaii	CH2M Hill	SEP-2012
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WHEELER ARMY AIRFIELD
Military Munitions Response Program
Site Descriptions

Site ID: WAAF-003-R-01

Site Name: FIRING RANGE 2A

STATUS

Regulatory Driver: CERCLA

MRSP Score: 04

Contaminants of Concern: Metals, Munitions constituents (MC)

Media of Concern: Soil

Phases	Start	End
PA.....	200204.....	200305
SI.....	200604.....	200806
RI/FS.....	200906.....	201309
RD.....	201106.....	201312
RA(C).....	201106.....	201412
LTM.....	201501.....	204309

RIP Date: N/A

RC Date: 201412

SITE DESCRIPTION

Firing Range 2A is located adjacent to the southern edge of an auxiliary runway near the southwestern boundary of WAAF. It is in a relatively flat, heavily vegetated area, next to the Waikele Stream. The site was previously investigated in the MMRP SI process. Since the completion of the SI, the site boundary has increased from 0.33 acres to 4.16 acres due to changes in operational range acreage.

A RI was completed. RI activities included 59.1 line miles of instrument aided visual survey, investigative intrusive activities, and increment sampling. MEC and munitions debris (MD) were found at the site during the RI fieldwork activities. Soil samples were collected from the site using 12 decision units (DUs). Six of the DUs reported Tier 1 Environmental Action Level (EAL) exceedances for antimony. The current land use of the site is commercial/industrial. The Munitions Response Site Prioritization Protocol (MRSP) score was updated for the site and has been assigned a priority of four.

An additional data collection was performed in September 2012 to improve remedial alternatives development. Discrete samples of subsurface soil were taken to evaluate background levels of manganese, and incremental sampling was performed to refine contaminated soil quantities. Results concluded that manganese on-site is attributable to high background levels that are common on North Shore and Central Oahu. No further action (NFA) is recommended.

An FS is currently underway and expected to be complete in FY13.

The site was funded under a performance-based acquisition (PBA) contract in FY11 to achieve RIP/RC by December 2014. LTM is expected in the form of environmental covenants (ECs) and institutional controls (ICs) and five-year reviews starting in FY15.

CLEANUP/EXIT STRATEGY

The MRS is expected to achieve RC by December 2014. The FS states that there is potential for residual material potentially presenting explosive hazard (MPPEH) due to limitations in the certainty of subsurface MEC clearance; therefore, LTM consisting of MEC monitoring, operation and maintenance (O&M), and five-year reviews is anticipated to start upon RA completion in 2015. The current PBA contract will expire, and a new contract will be necessary to fund LTM to FY43.

Site ID: WAAF-005-R-01

Site Name: Archery Range

STATUS

Regulatory Driver: CERCLA

MRSP Score: 04

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Soil

Phases	Start	End
PA.....	200204.....	200305
SI.....	200604.....	200806
RI/FS.....	200906.....	201308
RD.....	201106.....	201312
RA(C).....	201106.....	201412
LTM.....	201501.....	204309

RIP Date: N/A

RC Date: 201412

SITE DESCRIPTION

The Archery Range is comprised of approximately 7.75 acres of land located along an auxiliary runway in the southwestern portion of WAAF. The site consists of a grassy, open lot bounded to the south and southeast by bluffs that are approximately 60 to 80 feet high. The site was used as a small arms firing range by the Air Force since the 1950s and was converted to an archery range by the Army in 2003. The range is currently closed.

A SI was completed at the site in May 2008. MD associated with small arms and 40 millimeter (mm) practice grenades were observed within and beyond the southern boundary of the site. MEC were not identified during the investigation. Soil samples contained MC (metals only) above the US Environmental Protection Agency (USEPA) Region 9 Regional Screening Levels (RSLs). Further investigation for MEC and MC was recommended based on the presence of 40mm practice grenades and MC in site soils.

An RI was completed which included 29.1 line miles of instrument aided visual survey, investigative intrusive activities, and IS. MEC was not identified during the RI fieldwork; however several items of MD were found. Soil samples were collected from the site using 14 DUs. Analytical results showed antimony, arsenic, copper, lead, and manganese to be present in surface soil. The current land use of the site is commercial/industrial. The MR site was divided and the southern area containing MD was added to the MR site WAAF-011-R-01, and the archery range site was recommended for NFA for MEC.

An additional data collection was conducted to improve the quality of remedial alternatives. Surface soil sampling for X-Ray Fluorescence (XRF) correlation was performed. Results demonstrate that the XRF device would be an efficient tool to guide excavation. Subsurface soil sampling for treatability testing was also performed at the site. Stabilization was successful in reducing the concentration below the hazardous waste action level but does not reduce bioavailability.

The FS is expected to be completed in March 2013. Future phases to address MC will include: PP, DD, RD, RA(C), and LTM.

A PBA contract was awarded in FY11 to achieve RC at the site by December 2014. LTM consisting of operation & maintenance (O&M) and five-year reviews will be necessary after the PBA contract expires in 2015.

CLEANUP/EXIT STRATEGY

It is expected that the MRS will achieve RC by December 2014. LTM consisting of O&M and five-year reviews will be necessary after the PBA contract expires in 2015.

Site ID: WAAF-006-R-01

Site Name: 1940s Small Arms Range

STATUS

Regulatory Driver: CERCLA

MRSP Score: 05

Contaminants of Concern: Munitions constituents (MC)

Media of Concern: Soil

Phases	Start	End
PA.....	200204.....	200305
SI.....	200604.....	200806
RI/FS.....	200906.....	201206
RD.....	201103.....	201209
RA(C).....	201103.....	201301
LTM.....	201301.....	204301

RIP Date: N/A

RC Date: 201301

SITE DESCRIPTION

The 1940s Small Arms Range is a 0.55 acre site completely encompassed by WAAF-008-R-01, Skeet Range, located 1,400 feet south of the airplane parking lot and motor pool area on WAAF. The site was identified on a 1940s aerial photograph; however limited information about duration and use of the range exists. A SI was completed in May 2008. No MEC were found during visual surveys, however, MD including 7.62 mm casings, and MC (lead and antimony) were found in soils above USEPA Region 9 RSLs. Further investigation of MC was recommended for the site.

An RI is underway at the site. The current use of the site is commercial/industrial.

The remedial action for the 1940s Small Arms Range was conducted in FY12 and was executed as recorded in the Final DD. The remedial action included excavation of lead contaminated soil exceeding the recreational land use action level, stabilization of metals in excavated soil using ECOBOND Chemical Stabilization Technology, disposal of soil in an off-site disposal facility, installation of a soil cap, and land use controls.

A PBA contract has been awarded to reach RC by January 2013. A Land Use Control Implementation Plan (LUCIP) is underway. RC is expected to be achieved in FY13 for the MRS. Due to remaining contaminations exceeding unrestricted use Environmental Action Levels, LTM, and five-year reviews are anticipated to ensure that the land use control continues to be protective of human health and the environment.

CLEANUP/EXIT STRATEGY

RC is expected to be achieved in FY13 for the MRS. Due to remaining contamination exceeding unrestricted use Environmental Action Levels, LTM and five-year reviews are anticipated to ensure that the land use control continues to be protective of human health and the environment.

Site ID: WAAF-008-R-01
Site Name: Skeet Range

STATUS

Regulatory Driver: CERCLA

MRSP Score: 05

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Soil

Phases	Start	End
PA.....	200204.....	200305
SI.....	200604.....	200806
RI/FS.....	200906.....	201407
RD.....	201106.....	201412
RA(C).....	201106.....	201412

RIP Date: N/A

RC Date: 201412

SITE DESCRIPTION

WAAF-008-R-01, Skeet Range, is comprised of approximately 34.41 acres of land located 1,400 feet south of the airplane parking lot and motor pool area on WAAF. Based on historic aerial photographs, the original direction of fire for this range was to the northeast; however it was later re-oriented to the west. The site is comprised of three non-continuous pieces. The two eastern portions of the site encompass a relatively flat plateau and a steep U-shaped ravine. The western half of the site slopes steeply from the north to the south and is bisected by a deep stream bed.

An SI was completed in 2008. Small arms ammunition, MD, and soil contaminated with polycyclic aromatic hydrocarbons (PAHs) at levels above the USEPA Region 9 RSLs were found. The site was recommended for further investigation of MEC and MC.

An RI was completed and included 113.2 miles of instrument aided visual survey, intrusive activities, IS of soil, and discrete sediment sampling. Five MD and two MEC items were identified during the RI, however the MEC were classified as DMM and are not related to historic range activities. Soil samples from 10 DUs were collected. Analytical results detected manganese and PAH exceeding the EAL. The concentrations of the analytes that exceeded the EAL are not constituents typically associated with skeet range activities, and therefore are not considered MC. The current land use of the site is commercial/industrial. Results of the RI recommended NFA for MEC, and further investigation for MC under the MMRP program. The site was funded to achieve RC by December 2014. LTM will not be necessary.

CLEANUP/EXIT STRATEGY

Future actions likely to occur to reach RC are an FS, with a PP and a DD. LTM will not be necessary.

Site ID: WAAF-010-R-01
Site Name: WAAF CAB

STATUS

Regulatory Driver: CERCLA

MRSP Score: No known or suspected hazard

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Soil

Phases	Start	End
PA.....	200805.....	200809
SI.....	200909.....	201010
RI/FS.....	201010.....	201309

RIP Date: N/A

RC Date: 201310

SITE DESCRIPTION

The WAAF Combat Aviation Brigade (CAB) site (WAAF-010-R-01) consists of 250 acres within the central part of the WAAF installation adjacent to active runway 06-24 and former runways B and C. The WAAF CAB site overlaps the site of a Military Construction (MILCON) project which is planned to begin construction in FY 11 and FY12. The WAAF CAB was included in the MMRP based on possible pre and post World War II (WWII) use and disposal of MEC associated with normal military functions including trainings, storage and use of munitions.

A PA/SI was completed by CH2M Hill in September 2010 and consisted of a historical records review (HRR). The SI Report concluded that there is a possibility of historical small arms activities and residual hazards in areas in proximity to the CAB site. Therefore, there is a potential for small arms and MC to be present at the site. The PA/SI did not include fieldwork or sample collection. An RI was recommended for the site to establish the nature and extent of MEC and MC that may be present at the site as a result of historical activities.

An RI has been completed and recommended NFA for the site. The site will be administratively closed out with an NFA PP/DD that was funded in FY12 with a completion date of September 2013.

CLEANUP/EXIT STRATEGY

Results of the RI support an NFA recommendation for this site. An NFA PP/DD is expected in 2013. LTM will not be needed at the site.

Site ID: WAAF-011-R-01
Site Name: WAAF Practice Bombing Range

STATUS

Regulatory Driver: CERCLA

MRSP Score: 07

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Soil

Phases	Start	End
PA.....	201005.....	201008
SI.....	201009.....	201212
RI/FS.....	201201.....	201412

RIP Date: N/A

RC Date: 201412

SITE DESCRIPTION

The PBR munitions response site (MRS) (WAAF-011-R-01) is believed to have been used as a Practice Bombing Range between the 1920s and early-1940s.

During the SI, 46.75 of IAV surveys were conducted. MD related to numerous practice bombs was identified during the surveys. No explosive compounds were detected above MDLs. The PBR MRS was recommended for additional investigation for MEC and recommended NFA for MC: however, if further investigation of MEC at the MRS identifies AOCs, additional MC sampling may be warranted.

A PBA for the RI/FS for this MRS was awarded in FY12. It is anticipated that NFA will be required at this site after the RI/FS. No LTM is anticipated.

CLEANUP/EXIT STRATEGY

Results of the RI/FS will determine the need for a PP, DD, RD, and RA(C): however, it is anticipated that NFA will be required at this site and RC will be achieved upon completion of the RI/FS. No LTM is anticipated for this site.

Site ID: WAAF-011-R-02
Site Name: Wheeler Gulch 40mm Range

STATUS

Regulatory Driver: CERCLA

MRSP Score: 03

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Soil

Phases	Start	End
PA.....	201005.....	201008
SI.....	201009.....	201203
RI/FS.....	201201.....	201410
RD.....	201410.....	201506
RA(C).....	201506.....	201609

RIP Date: N/A

RC Date: 201609

SITE DESCRIPTION

SI field activities conducted at the Wheeler Gulch MRA included a visual survey of the site and the collection of 20 surface soil/sediment samples.

At the 40mm MRS, the field team encountered fragments of 40mm practice grenades and .50 caliber rounds. Evidence of military activity including target stands and target drums was identified within the MRS boundary. No explosive compounds were detected above MDFLs at the 40mm range MRS. The SI recommended an RI/FS at this MRS.

The RI/FS was funded in FY12. It is anticipated that RD and RA(C) will be required and that LTM will not be necessary.

CLEANUP/EXIT STRATEGY

Future RD and RA(C) phases are assumed. RA(C) is assumed to require MEC removal. LTM is not anticipated for this site.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
WAAF-001-R-01	SMALL ARMS RANGE 1	200806	The Final SI Report (2008) recommended NFA at this site for both MEC and MC.
WAAF-002-R-01	SMALL ARMS RANGE 1 (TD)	200806	The Final SI Report (2008) recommended NFA at this site because the off-post location of this range does not exist according to the HRR.
WAAF-004-R-01	FIRING RANGE 2B	200806	The Final SI Report (2008) recommended NFA at this site for both MEC and MC.
WAAF-007-R-01	Pursuit Gunnery 1,000"Range	200806	The Final SI Report (2008) recommended NFA at this site for both MEC and MC.
WAAF-009-R-01	WAAF PH6B	201108	Final Decision Document, Proposed Barracks Location, Wheeler Army Airfield, Oahu, Hawaii

MMRP Schedule

Date of MMRP Inception 200204

Past Phase Completion Milestones

2003

PA (WAAF-001-R-01 - SMALL ARMS RANGE 1, WAAF-002-R-01 - SMALL ARMS RANGE 1 (TD), WAAF-003-R-01 - FIRING RANGE 2A, WAAF-004-R-01 - FIRING RANGE 2B, WAAF-005-R-01 - Archery Range, WAAF-006-R-01 - 1940s Small Arms Range, WAAF-007-R-01 - Pursuit Gunnery 1,000"Range, WAAF-008-R-01 - Skeet Range)

2008

PA (WAAF-009-R-01 - WAAF PH6B, WAAF-010-R-01 - WAAF CAB)
SI (WAAF-001-R-01 - SMALL ARMS RANGE 1, WAAF-002-R-01 - SMALL ARMS RANGE 1 (TD), WAAF-003-R-01 - FIRING RANGE 2A, WAAF-004-R-01 - FIRING RANGE 2B, WAAF-005-R-01 - Archery Range, WAAF-006-R-01 - 1940s Small Arms Range, WAAF-007-R-01 - Pursuit Gunnery 1,000"Range, WAAF-008-R-01 - Skeet Range)

2010

PA (WAAF-011-R-01 - WAAF Practice Bombing Range, WAAF-011-R-02 - Wheeler Gulch 40mm Range)

2011

SI (WAAF-009-R-01 - WAAF PH6B, WAAF-010-R-01 - WAAF CAB)

2012

RI/FS (WAAF-006-R-01 - 1940s Small Arms Range)
RD (WAAF-006-R-01 - 1940s Small Arms Range)
SI (WAAF-011-R-02 - Wheeler Gulch 40mm Range)

Additional Past Phase Completion Milestones

PA - 200305

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

Site ID	Site Name	ROD/DD Title	ROD/DD Date
WAAF-005-R-01	Archery Range	ROD for MMRP Sites 3, 5, and 8	20130801
WAAF-003-R-01	FIRING RANGE 2A	ROD for MMRP Sites 3, 5, and 8	20130801
WAAF-008-R-01	Skeet Range	ROD for MMRP Sites 3, 5, and 8	20130801

Final RA(C) Completion Date: 201609

Schedule for Next Five-Year Review: 2017

Estimated Completion Date of MMRP at Installation (including LTM phase): 204309

WHEELER ARMY AIRFIELD MMRP Schedule

 = phase underway

SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
WAAF-003-R-01	FIRING RANGE 2A	RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
WAAF-005-R-01	Archery Range	RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
WAAF-006-R-01	1940s Small Arms Range	LTM						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
WAAF-008-R-01	Skeet Range	RI/FS						
		RD						
		RA(C)						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
WAAF-011-R-01	WAAF Practice Bombing Range	RI/FS						
SITE ID	SITE NAME	PHASE	FY14	FY15	FY16	FY17	FY18	FY19+
WAAF-011-R-02	Wheeler Gulch 40mm Range	RI/FS						
		RD						
		RA(C)						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): TBD

Restoration Advisory Board (RAB): No

Reason Not Established: Installation is in the process of determining interest in establishing a RAB.

Additional Community Involvement Information

The US Army Garrison Hawaii (USAG-HI) solicited community interest for a RAB in December 2011.

Administrative Record is located at

Department of Public Works
948 Santos Dumont Ave., Bldg. 105
Wheeler AAF, Schofield Barracks, HI 96857-5013

Information Repository is located at

Mililani Public Library
95-450 Makaimoimo Street
Mililani, HI 96789

Wahiawa Public Library
820 California Avenue
Wahiawa, HI 96786

Current Technical Assistance for Public Participation (TAPP):N/A

TAPP Title: N/A

Potential TAPP: N/A

